Passive House Planning
U-VALUES OF BUILDING ELEMENTS

Building: 58 Carrigwood - Attic Extension

Wedge Shaped Building Element Layers and
Still Air Spaces -> Secondary Calculation to the Right

1 Attic Extension Timber Framed Roof / Ceiling

Assembly No. Building Assembly Description

Heat Transfer Resistance [m²K/W] — interior R_{si}: 0.10; exterior R_{se}: 0.04

	Area Section 1	λ [W/(mK)]	Area Section 2 (optional)	λ [W/(mK)]	Area Section 3 (optional)	λ [W/(mK)]	Thickness [mm]
1.	Roof Tiles	0.000					10
2.	Cross Battens-Air	0.000					36
3.	Roof Sarking 'Nilvent	0.000					3
4.	Xtherm XT-TF.100	0.022	Rafters 110x36@350cc	0.130			100
5.	Xtherm XT-TL.52.5	0.022	40mm Insul. Laminate				40
6.	XT-TL Lam.Plasterbd.	0.190	12.5mm w/3mm Skim Finish				15
7.							
8.							

Percentage of Sec. 2: 10.0% — Percentage of Sec. 3: — — Total: 20.4 cm

U-Value: 0.184 W/(m²K)

2 Attic Dormer Roof & Exterior Walls

Assembly No. Building Assembly Description

Heat Transfer Resistance [m²K/W] — interior R_{si}: 0.10; exterior R_{se}: 0.04

	Area Section 1	λ [W/(mK)]	Area Section 2 (optional)	λ [W/(mK)]	Area Section 3 (optional)	λ [W/(mK)]	Thickness [mm]
1.	Zinc Metal Veneer	0.000					2
2.	Tyvek or equal	0.000					1
3.	12.5mm Plywood	0.000					13
4.	Xtherm SafeR/FB 150	0.020	Joists 150x44@400ccs	0.130			120
5.	Xtherm XT-TL.37.5	0.022	37.5mm Insul. Laminate				25
6.	Plaster Bd.	0.190	PlasterBd.w/3mm skim finish				15
7.							
8.							

Percentage of Sec. 2: 11.0% — Percentage of Sec. 3: — — Total: 17.6 cm

*U-Value 0.21 for walls

U-Value: 0.182 W/(m²K)

3 Attic Dwarf-Walls

Assembly No. Building Assembly Description

Heat Transfer Resistance [m²K/W] — interior R_{si}: 0.13; exterior Rse: 0.04

	Area Section 1	λ [W/(mK)]	Area Section 2 (optional)	λ [W/(mK)]	Area Section 3 (optional)	λ [W/(mK)]	Thickness [mm]
1.	Attic Eave Air Space	0.000					
2.	Xtherm SafeR/FB 100	0.020	Studs 150x44@400ccs	0.130			100
3.	Xtherm XT-TL.37.5	0.022	52.5 Insul. Laminate				40
4.	Plaster Bd.	0.190	PlasterBd.w/3mm skim finish				15
5.							
6.							
7.							
8.							

Percentage of Sec. 2: 11.0% — Percentage of Sec. 3: — — Total: — cm

U-Value: 0.178 W/(m²K)

4 Attic Gable Wall - Rendered 215 Block, Dobbed Insulated Plaster Bd.

Assembly No. Building Assembly Description

Heat Transfer Resistance [m²K/W] — interior R_{si}: 0.13; exterior R_{se}: 0.04

	Area Section 1	λ [W/(mK)]	Area Section 2 (optional)	λ [W/(mK)]	Area Section 3 (optional)	λ [W/(mK)]	Thickness [mm]
1.	Exterior Render	1.000					20
2.	215 Light Masonry	0.170	Quinn Lite Standard Block				215
3.	Plaster(AirTight Lyr)	0.250					13
4.	Xtherm XT-TL.102.5	0.022	90mm Insul. Laminate		*Direct DOBBED		90
5.	XT-TL Lam.Plasterbd.	0.190	12.5mm w/3mm Skim Finish				15
6.							
7.							
8.							

Percentage of Sec. 2: 0.0% — Percentage of Sec. 3: — — Total: 35.3 cm

U-Value: 0.176 W/(m²K)

Planning Application
Not Intended for Construction

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Project Name: Residential Extension
Project No.: 22-201

Dwg Title: PROPOSED EXTENSION U-VALUES

Note:
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